



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

August 1, 2008

Mr. Timothy J. O'Connor  
Site Vice President  
Monticello Nuclear Generating Plant  
Nuclear Management Company, LLC  
2807 West County Road 75  
Monticello, MN 55362-9637

**SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT NRC INTEGRATED  
INSPECTION REPORT 05000263/2008003**

Dear Mr. O'Connor:

On June 30, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Monticello Nuclear Generating Plant. The enclosed report documents the inspection findings, which were discussed on July 8, 2008, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, one self-revealed finding of very low safety significance was identified. This finding involved a violation of NRC requirements. However, because of its very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) in accordance with Section VI.A.1 of the NRC Enforcement Policy. Additionally, four licensee-identified violations are listed in Section 4OA7 of this report.

If you contest the subject or severity of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Monticello Nuclear Generating Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA Robert J. Orlikowski for/***

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket No. 50-263  
License No. DPR-22

Enclosure: Inspection Report 05000263/20008003  
w/Attachment: Supplemental Information

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P. Glass, Assistant General Counsel  
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Commissioner, Minnesota Department of Commerce  
Manager - Environmental Protection Division  
Minnesota Attorney General's Office

T. O'Connor

-2-

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Letter to T. O'Connor from K. Riemer dated August 1, 2008

SUBJECT: MONTICELLO NUCLEAR GENERATING PLANT NRC INTEGRATED  
INSPECTION REPORT 05000263/2008003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-263  
License No: DPR-22

Report No: 05000263/20008003

Licensee: Nuclear Management Company, LLC

Facility: Monticello Nuclear Generating Plant

Location: Monticello, MN

Dates: April 1 through June 30, 2008

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Approved by: K. Riemer, Chief  
Branch 2  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

IR 05000263/20008003; 04/01/2008 – 06/30/2008; Monticello Nuclear Generating Plant; Maintenance Risk Assessments and Emergent Work Control.

This report covers a three month period of inspection by resident inspectors, announced baseline inspections by regional inspectors of the Emergency Preparedness Program, and by regional inspectors of Independent Spent Fuel Storage Installation (ISFSI) activities. One Green finding was self-revealed. The finding was considered a non-cited violation (NCV) of NRC regulations. The significance of most findings are indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG 1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### A. NRC-Identified and Self-Revealed Findings

#### **Cornerstone: Barrier Integrity**

Green. A finding of very low safety significance and NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when the licensee failed to operate safety significant equipment in accordance with approved operating procedures. Specifically, during the conduct of routine control room panel lamp checks, the operator inadvertently actuated the standby gas treatment system, and then improperly reset the actuation signal. The inspectors determined that the performance deficiency affected the crosscutting area of Human Performance, having decision making components, and involving aspects associated with licensed operators making safety significant decisions using a systematic process to ensure safety is maintained. [H.1(a)]

The inspectors determined that the finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The finding was determined to be of very low safety significance (Green) because it only represented a degradation of the radiological barrier function provided for the reactor building and standby gas treatment system. (Section 1R13)

### B. Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by the inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Monticello operated at full power for the entire assessment period except for brief downpower maneuvers to accomplish rod pattern adjustments and to conduct planned surveillance testing activities.

#### 1. REACTOR SAFETY

##### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness**

#### 1R01 Adverse Weather Protection (71111.01)

##### .1 Readiness of Offsite and Alternate AC Power Systems

##### a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures for the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Aspects considered in the inspectors' review included:

- The coordination between the TSO and the plant during off-normal or emergency events;
- The explanations for the events;
- The estimates of when the offsite power system would be returned to a normal state; and
- The notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- The actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- The compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- A reassessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and

- The communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures.

This inspection constitutes one readiness of offsite and alternate AC power systems [grid stability] sample as defined in Inspection Procedure 71111.01.

b. Findings

No findings of significance were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought as a result of high temperatures.

During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report (USAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- reactor building and radwaste chilled water system; and
- 4kV switchgear room ventilation system.

This inspection constitutes one seasonal adverse weather sample as defined in Inspection Procedure 71111.01.

b. Findings

No findings of significance were identified.

.3 External Flooding

a. Inspection Scope

The inspectors evaluated the site's design, material condition, and capabilities for coping with a Probable Maximum Precipitation event. The evaluation included a review to check for deviations from the descriptions provided in the USAR for features intended to mitigate the potential for flooding from external factors. This inspection focused on the

adequacy of roof structures associated with buildings containing risk-significant equipment. As part of this evaluation, the inspectors walked down selected building roofs to check for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate floods were in place and operable. Additionally, the inspectors evaluated license documentation associated with roof loadings under various precipitation events.

This inspection constitutes one external flooding sample as defined in Inspection Procedure 71111.01.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Division I control room ventilation system with 14 emergency service water (ESW) system out-of-service;
- high pressure coolant injection (HPCI) system with reactor core isolation cooling (RCIC) out-of-service; and
- core spray system with Division I residual heat removal (RHR) out-of-service.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and; therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, USAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization.

These activities constituted three partial system walkdown samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns, which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire Zone 32B; emergency filtration train (EFT) building second floor (Division II) during hotwork activities;
- Fire Zone 31B; EFT building first floor (Division II);
- Fire Zone 3A; recirculation motor-generator set room; and
- Fire Zone 23B; intake structure corridor.

The inspectors toured risk-significant fire areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and had implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk, their potential to impact equipment, which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the licensee's fire mitigation strategies as a guide, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and that fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP.

These activities constituted four quarterly fire protection inspection samples as defined in Inspection Procedure 71111.05.

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On June 8, 2008, the inspectors observed an unannounced fire brigade drill to evaluate the overall readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief; and took appropriate corrective actions. Specific attributes evaluated

were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate firefighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

These activities constituted one annual fire protection inspection sample as defined in Inspection Procedure 71111.05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On May 28, 2008, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting problems with crew performance, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Action Levels.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements.

This inspection constitutes one quarterly licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- low pressure coolant injection (LPCI) function of both RHR trains;
- station electrical transformers;

The inspectors reviewed an increasing unavailability trend associated with the LPCI function of both RHR trains and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring; and
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or reclassification.

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization.

This inspection constitutes two quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below:

- evaluation and restoration activities associated with an inadvertent standby gas treatment (SBGT) initiation caused by operator error;
- yellow overall plant risk during relay upgrade activities in the switchyard;
- Division I residual heat removal service water (RHRSW) motor temperature and flow data gathering; and
- electric plant switching associated with the isolation and restoration of 2R and 2RS transformers, to facilitate seasonal transformer maintenance activities.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of the work and activity and verified plant conditions were accurately reflected in the licensee's risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems; when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These activities constituted four samples as defined in Inspection Procedure 71111.13.

b. Findings

Introduction

A Green self-revealed NCV of 10 CFR 50, Appendix B, Criterion V, was identified when a licensed control room operator failed to operate safety significant equipment in accordance with approved operating procedures. Specifically, during the conduct of routine control room panel lamp checks, the operator inadvertently actuated the SGBT, and then improperly reset the actuation signal.

Description

On April 3, 2008, shortly after assuming the watch, a licensed operator proceeded to conduct routine control room panel annunciator lamp checks. While performing the lamp check on Panel C24A ['A' SGBT control panel], the operator depressed the 'Test' pushbutton, instead of the 'Lamp Test' pushbutton. These two pushbuttons are physically separated on Panel C24A. In addition to the physical separation, the 'Test' pushbutton is differentiated from the 'Lamp Test' pushbutton by a red ring around its base. As a result of depressing the 'Test' pushbutton, the SGBT system actuated and a secondary containment isolation sequence was initiated. The operator's initial error was compounded when, immediately following depressing the 'Test' pushbutton, the operator depressed the test 'Reset' pushbutton. It should be noted that the 'Reset' pushbutton also has a red ring around its base. This action, in addition to resetting the SGBT system, resulted in an incomplete secondary containment isolation sequence. At this point, the operator notified shift management of his actions.

Control room operators immediately took actions to verify the status of the SGBT system and components impacted by the secondary containment isolation signal. Once the appropriate system response to the abnormal SGBT Test/Reset sequence was verified, the operators verified that the SGBT system had been restored to its standby condition and that all impacted secondary containment components were returned to at-power configuration. The licensee removed the responsible operator from licensed duty pending resolution of the issue via their corrective action process (CAP 1133244).

Analysis

The inspectors determined that the licensed operator's actions did not demonstrate that nuclear safety was an overriding priority. Additionally the licensed operator's poor watch standing practices and demonstrated lack of safety focus during the performance of

routine licensed duties was a performance deficiency warranting a significance evaluation. The inspectors concluded that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issues Disposition Screening," issued September 20, 2007. The finding was more than minor because it could reasonably be viewed as a precursor to a more significant event. The inspectors determined that the performance deficiency affected the crosscutting area of Human Performance, having decision making components, and involving aspects associated with licensed operators making safety significant decisions, using a systematic process to ensure safety is maintained. [H.1(a)]

The inspectors evaluated the finding using IMC 0609, Appendix A, Attachment 1, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Since the performance deficiency affected the SBGT system and secondary containment isolation components, the inspectors used the Phase 1 worksheet for the Containment Barrier Cornerstone to determine the significance of the finding. The finding was determined to be of very low safety significance (Green) because it only represented a degradation of the radiological barrier function provided for the reactor building and SBGT system.

#### Enforcement

Title 10 CFR, Part 50, Appendix B, Criterion V states, in part, that activities affecting quality shall be accomplished in accordance with prescribed procedures. Contrary to this requirement, a licensed control room operator failed to operate safety significant equipment in accordance with approved operating procedures. Specifically, during the conduct of routine control room panel lamp checks, the operator inadvertently actuated the SBGT system, and then improperly reset the actuation signal. Because this violation was of very low safety significance and it was entered into the licensee's CAP, it is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. (NCV 05000263/200800301)

#### 1R15 Operability Evaluations (71111.15)

##### a. Inspection Scope

The inspectors reviewed the following issues:

- operability assessment for both control room emergency filtration subsystems in recirculation mode during surveillance testing;
- extended power uprate (EPU) HPCI steam line break exceeds environmental qualification specification requirements;
- degraded motor cooling flow for 12 RHRSW;
- the impact of the steam jet air ejector room ceiling hatch being blocked on the high energy line break (HELB) analysis for the steam jet air ejector room and associated turbine building spaces; and
- oil leaks on 2R transformer bushings.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in

risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and USAR to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined; where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment.

This inspection constitutes five samples as defined in Inspection Procedure 71111.15.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification:

- temporary Division I power source for D40 125 Vdc swing charger.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the USAR, and TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance.

This inspection constitutes one temporary modification sample as defined in Inspection Procedure 71111.18.

b. Findings

No findings of significance were identified.

## .2 Permanent Plant Modifications

### a. Inspection Scope

The following engineering design package was reviewed and selected aspects were discussed with engineering personnel:

- EC 12170 (EFT/ESW flow meter installation).

This document and related documentation were reviewed for adequacy of the associated 10 CFR 50.59 safety evaluation screening; consideration of design parameters; implementation of the modification; post modification testing; and that associated procedures, design, and licensing documents were properly updated. The inspectors observed the actual installation of Phases 1 and 2 of the modification and reviewed the applicable engineering documentation associated with the Phases 3 and 4. The inspectors observed a sampling of ongoing and completed work activities to verify that installation was consistent with the design control documents. When all four phases have been completed, four new inline ultrasonic flow instruments will provide the licensee with a direct reading of total cooling water flow at the discharge of the EFT/ESW pumps and the control room ventilation flow directly upstream of coolers VEAC14A and VEAC14B.

This inspection constitutes one permanent plant modification sample as defined in Inspection Procedure 71111.18.

### b. Findings

No findings of significance were identified.

## 1R19 Post-Maintenance Testing (71111.19)

### a. Inspection Scope

The inspectors reviewed the following post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- functional testing of condensate storage tank level transmitters following replacement;
- functional testing of 'A' feedwater regulating valve following air leak repair of positioner pilot valve;
- 'B' RHRSW quarterly pump and valve test;
- spent fuel pool radiation monitor testing following reactor building crane radio control maintenance and modification;
- testing of electrical breakers following preventive maintenance; and
- SBTG system pressure drop test following system maintenance.

These activities were selected based upon the systems, structures, and components (SSCs) ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and

demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing, and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the USAR, 10 CFR 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with PM tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety.

This inspection constitutes six samples as defined in Inspection Procedure 71111.19.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Routine Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- condenser low vacuum scram instruments test and calibration (April 28, 2008);
- reactor high pressure scram instrument test and calibration (June 2, 2008);
- condenser low vacuum scram instruments test and calibration (May 27, 2008);  
and
- average power range monitor/rod block scram surveillance check (June 19, 2008).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as-left setpoints were within required ranges; the calibration frequency was in accordance with TS, the USAR, procedures, and applicable commitments; measuring and test equipment calibration was current; test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied; test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used; test data and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared

inoperable; where applicable for safety-related instrument control surveillance tests, reference setting data was accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test; equipment was returned to a position or status required to support the performance of the safety functions; and all problems identified during the testing were appropriately documented and dispositioned in the CAP.

This inspection constitutes four routine surveillance testing samples as defined in Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

.2 Inservice Testing Surveillance

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- core spray loop 'A' quarterly pump and valve tests (June 18, 2008).

The inspectors observed activities and reviewed procedures and associated records to determine whether: any preconditioning occurred; effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing; acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis; plant equipment calibration was correct, accurate, and properly documented; as left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments; measuring and test equipment calibration was current; test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied; test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used; test data and results were accurate, complete, within limits, and valid; test equipment was removed after testing; where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers (ASME) Code, and reference values were consistent with the system design basis; where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable; where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure; where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished; prior procedure changes had not provided an opportunity to identify

problems encountered during the performance of the surveillance or calibration test; equipment was returned to a position or status required to support the performance of its safety functions; and all problems identified during the testing were appropriately documented and dispositioned in the CAP. Documents reviewed are listed in the Attachment.

This inspection constitutes one inservice inspection sample as defined in Inspection Procedure 71111.22.

b. Findings

No findings of significance were identified.

1EP2 Alert and Notification System Evaluation (71114.02)

.1 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors reviewed documents and held discussions with Emergency Preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the Alert and Notification System (ANS) in the Monticello Plant's plume pathway Emergency Planning Zone. The inspectors reviewed weekly and monthly trend reports and siren test failure records from June 2006 through June 2008. Information gathered during document reviews and interviews was used to determine whether the ANS equipment was maintained and tested in accordance with emergency plan commitments and procedures. Additionally, the inspectors observed a weekly siren test conducted from Sherburne County Dispatch Center to verify the test was conducted in accordance with the approved procedure. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one sample as defined in Inspection Procedure 71114.02-05.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

.1 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspectors reviewed and discussed with plant EP staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating an Emergency Response Organization (ERO) activation to augment the on shift ERO, as well as the provisions for maintaining the plant's ERO emergency telephone book. The inspectors also reviewed reports and a sample of CAP records of unannounced off-hour augmentation tests, which were conducted from June 2006 through June 2008, to determine the adequacy of post drill critiques and associated corrective actions. The inspectors also reviewed a sample of the EP training records,

approximately 54 records for ERO personnel assigned to key and support positions were reviewed, to determine the status of their training as related to their assigned ERO positions. In addition, the inspectors conducted walkdowns of emergency response facilities to evaluate the material condition and readiness of the facilities. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one sample as defined in Inspection Procedure 71114.03-05.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

.1 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors reviewed a sample of Nuclear Oversight (NOS) staff's 2007 and 2008 audits of the Monticello EP program to determine that these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of CAP records associated with the 2007 biennial exercise, as well as various EP drills conducted in 2006 and 2007, in order to determine that the licensee fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities. Additionally, the inspectors reviewed a sample of EP items and corrective actions related to the facility's EP program and activities to determine whether corrective actions were completed in accordance with the site's CAP. Documents reviewed are listed in the Attachment to this report.

This inspection constitutes one sample as defined in Inspection Procedure 71114.05-05.

b. Findings

No findings of significance were identified

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety**

2PS1 Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems (71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed most current gaseous and liquid effluent processing systems to confirm radiological discharges are properly mitigated, monitored, and evaluated with respect to public exposure. The inspectors reviewed the licensee performance requirements that are found in General Design Criteria 60 and 64 of Appendix A to 10 CFR Part 50, Radiological Effluent Technical Specifications (RETS), and the Offsite Dose Calculation Manual (ODCM). The inspectors also reviewed any abnormal radioactive gaseous or liquid discharges and conditions since the last inspection when

effluent radiation monitors were out-of-service. In addition, the inspectors reviewed the licensee's quality control program to verify that the radioactive effluent sampling and analysis requirements were satisfied and that discharges of radioactive materials were adequately quantified and evaluated.

The inspectors verified that each of the Radiological Effluent Controls Program requirements were being implemented as described in the RETS. For each system modification, the inspectors reviewed changes to the liquid or gaseous radioactive waste system design, procedures, or operation as described in the USAR and plant procedures, and verified that any changes made to the liquid or gaseous waste systems were effective and maintained effluent releases as low as is reasonably achievable (ALARA).

The inspectors reviewed changes to the ODCM made by the licensee since the last inspection to ensure consistency was maintained with respect to guidance in NUREG 1301, 1302 and 0133, and Regulatory Guides 1.109, 1.21 and 4.1. If differences were identified, the inspectors reviewed the technical basis or evaluations of the change to ensure changes were technically justified and documented.

For effluent monitoring instrumentation, the inspectors reviewed documentation to verify the adequacy of methods and monitoring of effluents. This inspection also evaluated any changes to effluent radiation monitor setpoints. The inspectors evaluated the calculation methodology and the basis for the changes, thus ensuring an adequate justification.

The inspectors reviewed the licensee's program for identifying, assessing and controlling contaminated spills and leaks. The inspectors also reviewed new effluent discharge pathways (such as significant continuing leakage to ground water that continues to impact the environment if not remediated) to ensure the ODCM was updated to include the new pathway. The inspectors reviewed the Radiological Effluent Release Report for 2007 in order to determine if anomalous or unexpected results were identified by the licensee, entered in the CAP, and adequately resolved.

The inspectors reviewed any significant changes in reported dose values from the previous Radiological Effluent Release Report, and the inspectors evaluated the factors, which may have resulted in the change. If the change was not explained as being influenced by an operational issue (e.g., fuel integrity, extended outage, or major decontamination efforts), the inspectors independently assessed the licensee's offsite dose calculations.

The inspectors reviewed the plant's correlation between the effluent release reports and the environmental monitoring results per Section IV.B.2 of Appendix I to 10 CFR Part 50. In addition, the inspectors reviewed the results from audits and determined whether the licensee met the requirements of the RETS/ODCM.

This inspection constitutes one inspection planning sample as defined in Inspection Procedure 71122.01.

b. Findings

No findings of significance were identified.

## .2 Onsite Inspection

### a. Inspection Scope

The inspectors performed a walkdown of selected components of the gaseous and liquid discharge systems (e.g., gas compressors, demineralizers and filters in use or standby, tanks, and vessels) and reviewed current system configuration with respect to the description in the USAR. The inspectors evaluated temporary waste processing activities, system modifications and the equipment material condition. For equipment or areas that were not readily accessible, the inspectors reviewed the licensee's material condition surveillance records as applicable.

During the walkdown, the inspectors assessed the operability of selected point of discharge effluent radiation monitoring systems and flow measurement devices. The effluent radiation monitor alarm set point values were reviewed for agreement with RETS/ODCM requirements.

The inspectors observed the gaseous sampling of waste processing and observed selected portions of the routine processing and discharge of radioactive gaseous effluent. The inspectors verified that appropriate treatment equipment was used and that the radioactive gaseous effluent was processed and discharged in accordance with RETS/ODCM requirements, including the projected doses to members of the public.

The inspectors assessed the liquid waste processing system; however, the licensee was not processing liquid waste during the inspection.

The inspectors evaluated if appropriate effluent treatment equipment was being used and if radioactive liquid waste was being processed in accordance with procedure requirements. The inspectors also interviewed staff concerning effluent discharges made with inoperable (declared out-of-service) effluent radiation monitors and determined if appropriate compensatory sampling and radiological analyses were being conducted at the required frequency specified in the RETS/ODCM. For compensatory sampling methods, the inspectors verified that representative samples were being obtained and that the licensee did not routinely rely on the use of compensatory sampling in lieu of adequate system maintenance or calibration of effluent monitors.

The inspectors reviewed surveillance test results for non-safety-related ventilation and gaseous discharge systems (high efficiency particulate air (HEPA) and charcoal filtration) to ensure that the system was operating within acceptance criteria. In addition, the inspectors assessed the methodology the licensee uses to determine the stack/vent flow rates, and verified that the flow rates were consistent with ODCM values.

The inspectors assessed how the licensee identified any normally non-radioactive systems that may have become contaminated and ensured that 10 CFR 50.59 evaluations were performed per Nuclear Regulatory Commission (NRC) Bulletin 80-10. The inspectors did not identify unidentified contaminated systems that may have been unmonitored discharge pathways to the environment.

The inspectors also reviewed instrument maintenance and calibration records (i.e., both installed and counting room equipment) associated with effluent monitoring and reviewed quality control records for the radiation measurement instruments. The

inspectors performed this review to identify any degraded equipment performance and to assess corrective actions, as applicable.

The inspectors verified the radionuclides that were included in the source term to ensure that all applicable radionuclides were included, within detectability standards, in the licensee evaluation of effluent. The inspectors reviewed Part 61 analyses to ensure that hard-to-detect radionuclides were also included in the source term analysis for the year 2007.

The inspectors reviewed the meteorological dispersion and deposition factors and hydrogeologic characteristics used in the licensee's ODCM and effluent dose calculations to verify that appropriate factors were being used for public dose calculations. The inspectors also reviewed the land use census for any new public dose receptors or pathways.

The inspectors reviewed the annual dose calculations to ensure that the licensee had properly demonstrated compliance with 10 CFR Part 50, Appendix I, and TS dose criteria.

The inspectors also reviewed and assessed the licensee's implementation of the voluntary Nuclear Energy Institute (NEI)/Industry Ground Water Protection Initiative (GPI). The inspectors reviewed changes made to the GPI, monitoring results of the GPI, identified leakage or spill events and entries made into 10 CFR 50.75(g) records, and evaluations of leaks or spills including any remediation actions taken for effectiveness. There were no abnormal effluent discharges since the last radioactive gaseous and liquid effluents monitoring inspection in 2006. To date, the licensee records did not indicate any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc).

The inspectors reviewed onsite contamination events involving contamination of ground water and assessed whether the source of the leak or spill was identified and mitigated. Since the last inspection, there were no unmonitored spills, leaks, or unexpected radioactive liquid or gaseous discharges. The inspectors verified that significant leaks and spills were properly documented in the site's CAP and/or in the decommissioning file, per 10 CFR 50.75(g). The inspectors reviewed the licensee's records to determine if sufficient radiological surveys were performed to evaluate the extent of the contamination and the radiological source term, and the inspectors reviewed survey/evaluation records that included consideration of hard-to-detect radionuclides.

The inspectors assessed if the licensee evaluated and analyzed any new or additional effluent discharge pathways as a result of a spill, leak, abnormal or unexpected liquid discharge or gaseous discharges. The inspectors reviewed whether the licensee monitored groundwater discharges and verified that significant leaks and spills had been properly documented. The inspectors evaluated if the licensee's program included provision for required or voluntary offsite notifications to the State, local, and if appropriate, the NRC.

The inspectors assessed the licensee's program that evaluated discharges from onsite surface water bodies (ponds, retention basins, lakes) that contain or potentially contain radioactivity and the potential for ground water leakage from these onsite surface water bodies. The inspectors assessed if the licensee accounted discharges from these

surface water bodies as part of their effluent release reports and reviewed routine groundwater monitoring results to assess whether the licensee was monitoring for unknown leakage. The inspectors verified that the licensee sufficiently evaluated monitoring results, properly documented and reported the results, entered any abnormal results into its CAP, and implemented adequate corrective actions. Additionally, the inspectors reviewed the licensee's self-assessments, audits, and event reports that involved unanticipated offsite discharges of radioactive material.

The inspectors reviewed the results of the inter-laboratory comparison program to verify the quality of radioactive effluent sample analyses. The inspectors verified that the licensee maintained adequate effluent sampling records (sampling locations, sample analyses results, flow rates, and source term for radioactive liquid and gaseous effluent, (i.e., information needed to satisfy the requirements of 10 CFR 20.1501)).

This inspection constitutes one sample as defined in Inspection Procedure 71122.01.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports (LERs), and Special Reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the CAP for resolution. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors also reviewed corrective action reports from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of NCVs tracked in the corrective action system;
- implementation/consideration of risk-significant operational experience feedback; and
- ensuring problems were identified, characterized, prioritized, entered into a corrective action, and resolved.

This inspection constitutes one sample as defined in Inspection Procedure 71122.01.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator (PI) for the period of 2<sup>nd</sup> Quarter 2007 through the 1<sup>st</sup> Quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, and event reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's corrective action database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified.

This inspection constitutes one safety system functional failures sample as defined in Inspection Procedure 71151.

b. Findings

.2 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System Leakage PI for the period of 2<sup>nd</sup> Quarter 2007 through the 1<sup>st</sup> Quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator logs, and RCS leakage tracking data, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's corrective action database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified.

This inspection constitutes one reactor coolant system leakage sample as defined in Inspection Procedure 71151.

b. Findings

No findings of significance were identified.

.3 Radiation Safety Strategic Area

a. Inspection Scope

The Inspectors sampled the licensee's PI submittals for the period indicated below. The inspectors used PI definitions and guidance contained in Revision 5 of NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The following PI was reviewed:

- RETS/ODCM Radiological Effluent Occurrence.

The inspectors reviewed data associated with the RETS/ODCM PI to determine if the indicator was accurately assessed and reported. The inspectors reviewed the licensee's CAP database and individual CAPs generated in 2007 to identify any potential occurrences such as unmonitored, uncontrolled or improperly calculated effluent releases that may have impacted offsite dose. The inspectors also reviewed gaseous and liquid effluent summary data and the results of associated offsite dose calculations for four quarter periods in 2007 to determine if indicator results were accurately reported. The inspectors also discussed with the licensee the methods for quantifying gaseous and liquid effluents and for determining effluent dose.

These reviews constitute one sample as defined in Inspection Procedure 71151.

b. Findings

No findings of significance were identified.

.4 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise Performance PI for the period from the 4<sup>th</sup> quarter 2007 through 1<sup>st</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during predesignated control room simulator training sessions, performance during the 2007 biennial exercise, and performance during other drills. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.5 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI for the period from the 4<sup>th</sup> quarter 2007 through 1<sup>st</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes for drill participation counting including the roster of personnel assigned to key emergency response organization positions. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one ERO drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

.6 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System (ANS) PI for the period from the 4<sup>th</sup> quarter 2007 through 1<sup>st</sup> quarter 2008. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI and performance results of periodic ANS operability tests. Specific documents reviewed are described in the Attachment to this report.

This inspection constitutes one alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings of significance were identified.

## 4OA2 Identification and Resolution of Problems (71152)

### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection**

#### .1 Routine Review of Items Entered into the CAP

##### a. Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the attached List of Documents Reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

##### b. Findings

No findings of significance were identified.

#### .2 Daily Corrective Action Program Reviews

##### a. Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and; as such, did not constitute any separate inspection samples.

##### b. Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of January 1, 2008, through June 30, 2008, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP; in major equipment problem lists; repetitive and/or rework maintenance lists; departmental problem/challenges lists; system health reports; quality assurance audit/surveillance reports; self assessment reports; and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample.

b. Findings

No findings of significance were identified.

.4 Selected Issue Follow-Up Inspection: Adverse Trend in Important Equipment Failures

a. Scope

On March 31, 2008, the licensee entered CAP 01130834, "Adverse Trend in Important Equipment Failures," into their CAP. The condition identified in this CAP was an adverse trend in the number of failures of equipment important to plant operation, as evidenced by a recent increase in unplanned LCO actions and critical equipment clock resets. The licensee tasked a multi-disciplined team to perform a common cause evaluation (CCE) associated with the issue identified in CAP 01130834. The stated purpose of the CCE was to review the results of various processes that monitor the performance of equipment that could significantly impact plant performance for common failure causes, with the end goal of targeting specific corrective actions to improve overall equipment performance and reliability. The inspectors reviewed the CCE, the population of equipment issues evaluated by the CCE (approximately 100), and the correction actions that were recommended to reverse the adverse trend in important equipment failures. On several occasions, the inspectors engaged members of the CCE team to determine if the depth-of-scope and extent-of-condition were appropriate to adequately address the issues being evaluated. Subsequent to the completion of the CCE, the inspectors discussed with senior licensee management the strategy and timeline for the implementation of the corrective actions developed to reverse the trend in important equipment failures.

The above constitutes completion of one in-depth problem identification and resolution sample.

b. Findings

No findings of significance were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000263/20080100: Non-Conservative High Energy Line Break Analysis Discovered during Extended Power Uprate Review

On January 31, 2008, during a review of HELB calculations for the plant's EPU project, the licensee discovered that their existing HELB calculations failed to consider the actuation of fire sprinklers in the condenser bay and the resultant flooding impact on the lower Division I 4kV equipment. Due to a recently installed flood barrier located near the switchgear room, current operability of the equipment was not in question. The licensee determined that prior to the installation of the barrier, there was a potential for the loss of the lower Division I 4kV equipment due to certain HELB scenarios. The corrective actions associated with this event included a revision of the affected HELB calculation and that the flood barrier located near the lower Division I 4kV switchgear room will become permanent. This finding was more than minor because, during the time period when the flood barrier was not in place, the issue impacted the Mitigating Systems Cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to preclude undesirable consequences. The inspectors evaluated the finding using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and determined the finding to be of very low safety significance (Green). This licensee-identified finding involved a violation of 10 CFR 50, Appendix B, Criterion III, "Design Control." The enforcement aspects of the violation are discussed in Section 4OA7. This LER is closed.

.2 (Closed) LER 05000263/20080200: Inoperability of Channel 'B' Spent Fuel Pool Radiation Monitor due to Incorrect Calibration

On February 19, 2008, the licensee discovered a calibration error on the Channel 'B' spent fuel pool area radiation monitor. It was determined that the monitor was inoperable between November 20, 2007, to February 19, 2008, due to a faulty meter, an inadequate surveillance procedure, and verification of the source strength of the calibrator at an improper frequency. Essentially, the 'B' spent fuel pool radiation monitor upscale trip would not have necessarily provided a secondary containment isolation and SBGT initiation at less than or equal to 100 mrem/hour, as required by TS. During the licensee's evaluation, it was identified that the Channel 'A' spent fuel pool radiation monitor was inoperable for up to six hours for calibration and testing on two occasions during the timeframe that the 'A' monitor was inoperable. Technical Specification 3.3.6.2 requires, in part, that with one or more channels inoperable, that the channel be placed in trip within 24 hours. Also, TS 3.3.6.2 requires that secondary containment isolation be restored within two hours if the refueling floor radiation - high monitoring function cannot be maintained. During the period of November 20, 2007, to February 19, 2008, the refueling floor radiation - high monitoring function to isolate secondary containment and start SBGT was not maintained on two occasions. The licensee verified proper trip setpoints, replaced the failed meter, quarantined applicable procedures, and verified

calibrator source strength. The licensee also plans on performing calibrator source strength verifications on an annual basis. This finding was more than minor because the issue impacted the Barrier Integrity Cornerstone's objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The inspector determined that the finding was subject to significance evaluation per IMC 0609, Attachment 4, "Significance Determination Process Phase 1 – Initial Screening and Characterization of Findings," because it was associated with the integrity of the reactor building barrier. The inspectors determined that the finding was of very low safety significance (Green) because it only represented degradation of the radiological barrier function provided for the reactor building/SBGT system. This licensee-identified finding involved a violation of TS 3.3.6.2, Condition B. The enforcement aspects of this violation are discussed in Section 4OA7. This LER is closed.

.3 (Closed) LER 05000263/20080300: Control Room Emergency Filtration Trains Inoperability in Recirculation Mode

On February 13, 2008, the licensee identified a surveillance procedure that rendered both control room emergency filtration (CREF) subsystems inoperable. During this surveillance, both CREF master system switches were placed in recirculation mode. This configuration would have prevented automatic system realignment and initiation of high radiation mode. Per TS, having both CREF subsystems inoperable for reasons other than an inoperable control room boundary requires immediate entry into LCO 3.0.3. The licensee determined that the subsystems were both in recirculation mode for brief periods of time during the testing, but that the requirements of LCO 3.0.3 were not violated for surveillance tests conducted during the past two years. The licensee quarantined applicable procedures and revised them so as to not allow both CREF subsystems to be aligned in recirculation mode at the same time. This finding was more than minor because the issue impacted the Barrier Integrity Cornerstone's objective of providing reasonable assurance that physical design barriers protect the public (in this case, control room habitants) from radionuclide releases caused by accidents or events. The inspectors determined that the finding was subject to significance evaluation per IMC 0609, Attachment 4, "Significance Determination Process Phase 1 – Initial Screening and Characterization of Findings," because it was associated with the integrity of the control room barrier. The inspectors determined that the finding was of very low safety significance (Green) because it only represented degradation of the radiological barrier function provided for the control room. This licensee-identified finding involved a violation of TS 3.7.4, Condition E. The enforcement aspects of this violation are discussed in Section 4OA7. This LER is closed.

4OA5 Other Activities

.1 Preoperational Testing of an Independent Spent Fuel Storage Installation at Operating Plants (60854.1)

An inspection of the licensee's activities that support the upcoming dry fuel storage dry run was initiated, which included in-office review of plant modifications and corresponding design calculations. These inspection activities are currently scheduled to complete in the 3<sup>rd</sup> Quarter 2008. The results of these inspection activities will be documented in the Integrated Inspection Report 05000263/2008004.

.2 (Closed) NRC Temporary Instruction (TI) 2515/175 “Emergency Response Organization, Drill/Exercise Performance Indicator, Program Review”

The inspectors performed TI 2515/175, ensured the completeness of the TI's Attachment 1 and then forwarded the data to NRC, Headquarters.

.3 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 8, 2008 the inspectors presented the inspection results to Mr. O'Connor and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Radioactive Gaseous and Liquid Effluent Treatment Monitoring System under the Public Radiation Safety Cornerstone with Mr. Brad Sawatzke, Plant Manager, on May 2, 2008; and
- Independent Spent Fuel Storage Installation Emergency Preparedness Inspection with Mr. J. Grubb on June 27, 2008.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

The following violations of very low significance (Green) were identified by the licensee and are violations of NRC requirements, which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG1600, for being dispositioned as NCVs.

- Title 10 CFR 50, Appendix B, Criterion III, Design Control, requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for those SSCs to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. Contrary to this requirement, the licensee's calculation of record for HELB did not model the actuation of the fire water sprinklers in the condenser room when the condenser room exceeded 165 degrees Fahrenheit during a postulated HELB. This extra liquid volume in the condenser room was enough to have exceeded the maximum allowable postulated water level at the lower 4kV switchgear room. This issue was documented in the licensee's corrective action program as CAP 01125675. The finding is of very low safety significance because the HELB frequency for the Monticello plant is significantly below the level required to result in a core damage frequency (CDF) increase of 1.00 E06/year for the scenario of interest.
- Technical Specification 3.3.6.2, Condition B, requires, in part, restoration of secondary containment isolation capability within one hour when the "Refueling Floor Radiation - High" function is not maintained in Modes 1, 2, and 3; during operations with a potential for draining the reactor vessel; and, during movement of recently irradiated fuel assemblies in secondary containment. Contrary to this requirement, the licensee did not perform the required action of TS 3.3.6.2, Condition B.1, within the associated completion time on two occasions when both spent fuel pool radiation monitors were inoperable. The issue was documented in the licensee's CAP. The finding is of very low safety significance because it only represented a degradation of the radiological barrier function of the reactor building/SBGT system.
- Technical Specification 3.7.4, Condition E, requires, in part, immediate entry into limiting condition for operation (LCO) 3.0.3 when two CREF subsystems are inoperable in Modes 1, 2 and 3, for reasons other than an inoperable control room boundary. Contrary to this requirement, the licensee performed the required action of TS 3.7.4, Condition E.1, immediately on several occasions during CREF surveillance testing when both subsystems were placed in recirculation mode and automatic realignment and initiation of high radiation mode was not possible. The issue was documented in the licensee's CAP. The finding is of very low safety significance because it only represented a degradation of the radiological barrier function of the control room.
- Title 10 CFR 50.47 (b) (5) requires that means have been established for alerting the public within the plume exposure pathway and FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" specifies the design requirements. Contrary to the FEMA approved Alert and Notification System (ANS) design report, an individual siren, designated as S-30, was discovered on April 4, 2007, during a stand under observation of the siren performance testing to not meet design requirements. The siren head failed to rotate while sounding. The licensee noted a similar rotation failure for the siren on July 5, 2006, but did not enter the occurrence in the CAP. In May of 2007 on further investigation, the licensee discovered the rotation had existed since installation in July of 2005 and was a result of factory incorrect wiring. The siren rotation failure was identified in the licensee's CAP as AR-01090935. The finding

was determined to be of very low safety significance using IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process" assessing the licensee's current performance in problem identification and resolution.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee:

T. O'Connor, Site Vice President  
B. Sawatzke, Plant Manager  
J. Grubb, Site Engineering Director  
K. Jepson, Business Support Manager  
S. Sharp, Operations Manager  
S. Radebaugh, Maintenance Manager  
B. Cole, Radiation Protection/Chemistry Manager  
J. Sabados, Chemistry General Supervisor  
T. Roger, Chemistry Technician  
R. Baumer, Regulatory Compliance  
L. Anderson, Emergency Preparedness Coordinator  
G. Holthaus, Emergency Preparedness Coordinator  
L. Hoskins, Senior Emergency Preparedness Coordinator  
D. Pedersen, Emergency Preparedness Manager  
E. Weinkam, Licensing and Emergency Preparedness Director  
C. Morgan, Corporate Senior Engineering Analyst  
K. Jepson, Site Support Manager  
T. Taylor, NOS Manager  
T. Blake, RA Manager

#### Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2

### LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

#### Opened and Closed

05000263/200800301	NCV	Licensee Inadvertently Actuated and Reset the Standby Gas Treatment System While Conducting Routine Control Room Panel Lamp Checks (Section 1R13)
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#### Closed

50263/200800100	LER	Non-Conservative High Energy Line Break Analysis Discovered during Extended Power Uprate Review (Section 4OA3)
50263/200800200	LER	Inoperability of Channel 'B' Spent Fuel Pool Radiation Monitor due to Incorrect Calibration (Section 4OA3)
50263/200800300	LER	Control Room Emergency Filtration Trains Inoperability in Recirculation Mode (Section 4OA3)

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### CALCULATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
99007	MOV Environmental Temperatures	Revision 1
98054	Environmental Qualification (50.49) of Consolidated Controls Relay 8N131	Revision 0

### CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
1133244	Inadvertent Initiation of 'A' SBTG Due to Operator Error	
01134620	Air Leak found Coming from CV612A Positioner	
01127156	Evaluate Operability of CREF Trains while in Recirculation Mode	
01133058	4 More Procedures Need Changes from AR 1127156	
01133259	Maintenance Rule RHR LPCIA in Alert Status Yellow	
01135710	ODMI for Main Transformer 345 KV B Phase Busing	
01027737	1AR Neutral Grounding XFMR Wire Found Disconnected	
01045035	2R Disconnect, 34.5 kV One Phase 16 Degrees F Hotter than Other Two	
01075759	1R Transformer X03/XFMR Dissolved Gas in Oil Result 12/27/06	
01076103	1M Transformer X01/XFMR Dissolved Gas in Oil Result 12/27/06	
01081604	1M Transformer Carbon Monoxide Level	
01086531	Low Voltage Busing on Main Transformer is Above Double Limit	
01094693	1R Transformer MR Unavailability Yellow (>450 hrs/2 years)	
01095556	1R Transformer (X03/XFMR) Dissolved Gas Analysis Sample Results WO 301740	
01103509	Station Transformer Annual Insulating	

	Oil Dielectric Test
01134340	Hotspot Identified on Main Transformer 'B' Phase Bushing
01137362	Main Transformer Dissolved Gas Analysis Results April 2008
01135247	2RS and 6TR Dissolved Gas Analysis Results April 2008
01137038	Loose Material in the Protected Area Not Secured
01136919	Loss of Motor Cooling to Division II RHRSW Pumps
01125992	P109A, Low Motor Cooling Flow to 11 RHRSW Pump
01126618	Potential Increase in RHRSW Motor Cooling Flow Silting
01133459	Accelerated Testing RHRSW Motor Cooler Flush
01137494	NRC Resident Question on Turbine Roof Design
01137297	D10 Exhibits Erratic Voltage Output During Surveillance
01127970	Miss-Calibration of Spent Fuel Pool Radiation Monitor due to Calibration Process
01139423	Negative Trend in Number of Maintenance HU CAPs
01139428	Negative Trend in Equipment Performance and Failure Events
01139430	Negative Trend in Engineering Personnel Related Events
01139432	Negative Trend in Work Practice Related Events
01139836	Heating Noted at 2R Transformer X2 Connection to Bus Duct
01139592	Starter Auxiliary Contact Assembly Stuck in B3322, MO1988
01141348	Evaluate Compliance of PM4847 to GE SIL No. 652
01126881	Non Conservative Decision Making for Rad Monitor ODCM Action on February 7, 2008, Where SW Rad Monitor was Taken Out of Service
01117595	Retraining of Failed Fuel Recognition in Response to Off Gas Radiation Monitor Response Training
01086646	Met Tower Power Supply Voltage Low During Meteorological Tower Inspection

01042035	A Spike of 'B' Fuel Pool Monitor Causes ESF Actuation and Cause ESF Actuation
01037849	USAR Apparent Discrepancies with TSs
01136291	Groundwater Monitoring Well No. 3, Indicated a Possible Trend, Question the Validity of Data
01136466	Perform Snap Shot Self-Assessment on Groundwater Monitoring Program
01127586	Reactor Building Wide Range Gas Monitor Effluent Levels Erratic
01127991	Channel 'A' Reactor Building Exhaust Plenum Monitor As Found Monitor was Out of As Found
01128434	The 'A' Reactor Building Vent Wide Range Gas Monitor Reading Erratic
01088619	Service Water Radiation Monitor Spiked When Operations Performed Routine Weekly Flush
01133137	Received Expected Off Gas Radiation Monitor Alarm as Expected Due to Failed Fuel
01134477	Monticello EP Snap Shot Evaluation Report
01118282	Two Assembly Point Friskers not Working Properly
01118110	ERF's had Uncertainty with Eating/Drinking Policy
01100069	Drill Participants did not Identify Release Status Expected
01121041	Unexpected EAL Classification during Simulator Training
01134650	Unable to Locate Hard Copy of Completed Surveillance Test for Sirens STP 1359
01066012	39 of 48 Sherburne Sirens did not Activate
01090935	Siren S-30 not Rotating during Activation
01142043	Siren Informer Box Needs Relocating at Sherburne County
01066012	39 of 48 Sherburne Sirens did not Activate Using Backup PANS Testing
01134725	2 PANS Siren Issues Noted during Completion of STP 1359
01134650	Unable to Locate Hard-Copy of Completed Surveillance Test
01142245	DEP KPIs Needs Add'l Documentation for Scenarios

01131899  
01115282

Site EP Staff Training Plan is Weak  
Improve Drill Participation Training

### MODIFICATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
EC 12170	EFT – FSW Flow Meter Installations	Revision 0
EC 12697	Temporary Div I Power Source for D40 125 V Swing Charger	Revision 0
EC 12715	Installation of Temporary Charger on D10 125 VDC Charger	

### OPERABILITY EVALUATIONS

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
OPR 01130561	EPU HPCI Steam Line Break in HPCI Room Exceeds EQ Spec Rqmt's	

### PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
FPOPCOO01	Conduct of Operations	Revision 4
4 AWI04.01.01	General Plant Operating Activities	Revision 50
B.04.0205	Secondary Containment/SBGT – System Operation	Revision 21
OWI01.04	Operations General Procedural Guidance	Revision 14
025511III3	13 ESW Quarterly Pump and Valve Test	Revision 43
7050	CST Level Instrument Calibration Procedure	Revision 5
B.02.0305	RCIC – System Operation	Revision 20
B.03.0205	HPCI – System Operation	Revision 35
B.05.0705	Condensate and Feedwater – System Operation	Revision 13
Strategy A.332B	EFT Building Second Floor (Division II)	Revision 6
2201	Plant Prestart Checklist CRVEFT System	Revision 7
Operations Manual B.08.1305	Control Room H&V and EFT	Revision 15
0007A	Condenser Low Vacuum Scram Instruments Test and Calibration Procedure (≥600 psig)	Revision 21
046501	Emergency Filtration Treatment System	Revision 29
046501	Emergency Filtration Treatment System	Revision 31
047201	CRVEFT Pressurization Test	Revision 25
EWI04.05.01	Thermography Program	Revision 8
6010	Transformer Oil Analysis Form	Revision 0

Strategy A.331B	EFT Building First Floor (Division II)	Revision 11
Operations Manual	4/16 kV Station Auxiliary System	Revision 23
B.09.0605	Operation	
4 AWI04.02.01	Housekeeping	Revision 16
1487	Site Loose Material Quarterly Inspection	Revision 4
Operations Manual	Heating and Ventilation System	Revision 18
B.08.0705	Operation	
ESOOP6.140P	System Operating Code Response	Revision 3a
ESOOP6.150	Power Plant Operator Communication and Response Policy	Revision 3.1
OWI01.04	Operations General Procedural Guidance	Revision 14
1150	Summer Checklist	Revision 42
A.6	Acts of Nature	Revision 27
2118	HPCI System Plant Prestart Checklist	Revision 15
216403	250 Vdc Batteries and DC Power System	Revision 15
025504IA12	RHR Loop 'B' Quarterly Pump and Valve Tests	Revision 76
025505IA12	'B' RHRSW Quarterly Pump and Valve Tests	Revision 63
0068	Spent Fuel Pool & Reactor Building Exhaust Plenum Monitor Calibration	Revision 31
0002	Reactor High Pressure Scram Instrument Test and Calibration Procedure	Revision 23
B.09.0305	345 KV Substation – System Operation	Revision 25
B.09.0605	4.16 KV Station Auxiliary – System Operation	Revision 23
2119	Plant Prestart Checklist Core Spray System	Revision 8
215411	Core Spray System Prestart Valve Checklist	Revision 18
Strategy A.303A	Recirc MG Set Room	Revision 5
Strategy A.318B	Oil Drum Storage Room	Revision 3
0012	APRM/Rod Block Scram Surveillance Check	Revision 41
025503IA11	Core Spray Loop 'A' Quarterly Pump and Valve Tests	Revision 47
4847PM	GE 7700 Line Motor Control Center Maintenance Procedure	Revision 18
025301	SBGT 'A' Train Quarterly Test	Revision 36
Strategy A.323B	Intake Structure Corridor	Revision 5
I.50.50	Sampling Ground Water Monitoring Wells	Revision 0
R.06.02	Unconditional Release of Equipment or	Revision 22

5093	Material Determination of Discriminator Setting for Process Monitor	Revision 6
NH36046	MNGP P&ID Dirty Radwaste System	Revision 77
B.07.0105	Ops Manual to Prevent Discharge of Liquid Radwaste	Revision 23
0136	0163 Wide Range Gas Monitor Calibration 0432 Accident Monitoring Wide Range Gas Monitor Calibration	Revision 34
0071	Offgas Pretreatment Monitor Calibration Procedure	Revision 30
1419	Reactor Building Hard Pipe Vent Radiation Monitor Calibration	Revision 3
1323	Sewer Radiation Monitor Calibration	Revision 6
0354	Turbine Building Normal Waste Sump Monitor Calibration	Revision 16
0171	Discharge Canal Monitor Calibration	Revision 19
0290	Service Water Monitor Calibration	Revision 14
1119	Stack Filters DOP Efficiency Test	Revision 6
1118	Offgas Compressors Suction Filters DOP and Freon Efficiency Test	Revision 7
4AWI04.04.09	Equipment Control Monticello FEMA Region V PANS Implementing Procedure and Supplementary Documents	Revision 3 June 1, 1984
EPWI-01.05	PANS Maintenance and Testing	Revision 9
Surveillance 1359	PANS Weekly Cancel Signal Test	Revision 14
Surveillance 1409	PANS Monthly Siren Activation Testing	Revision 14
EPWI-01.13	EP Action Item Tracking	Revision 0
EPWI-01.09	EP Advisory Committee Charter	Revision 2
EPWI-01.06	EP PI Program	Revision 10
EPWI-01.06	EP Pager Issuance, Replacement and Testing	Revision 3
5790-001-01	Emergency Response Organization Staffing	Revision 72

## REFERENCES

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
Engineering Change (EC) 12435	Effect HPCI Steam Line Break in HPCI Room on EQ Specifications, Part B	Revision 0
EC 12421	Effect of EPU Reactor Building HELB Liquid Breaks on EQ Specifications, Part B	Revision 0
EC 11844	Effect of EPU Conditions on AOVs and MOVs	Revision 0

Monticello Maintenance Rule Program System Basis Document	Residual Heat Removal	Revision 5
MNGP System Health Report	Residual Heat Removal System	Dated April 3, 2008
	Control Room Operator Logs	September 2007 to March 2008
Monticello Maintenance Rule Program System Basis Document	4.16 kV Station Auxiliary	Revision 7
Monticello Maintenance Rule Program System Basis Document	345 kV Substation	Revision 2
Letter from Nuclear Management Company to US NRC	Monticello Response to US NRC Generic Letter 200602, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"	July 21, 2006
Troubleshooting Log for WO 361167	RHR SW Pump Motor Cooling Line	May 7, 2008
NSPLMI95001	MNGP Individual Plant Examination of External Events	Revision 1
Simulator Exercise Guide M8117S106	Scram Test, Degrading Grid, LONOP	Revision 0
EC 12684	Engineering Evaluation of Ceiling Hatch on SJAE Room Blocked from Relieving	
Fire Brigade Drill Guide 25	Oil Drum Storage Room Fire	Revision 0
Nuclear Oversight Observation Report 20080132	Corrective Action Program	
	Monticello Site Roll-Up Performance Results	1 <sup>st</sup> Quarter 2008
	Monticello Site Roll-Up Performance Results	4 <sup>th</sup> Quarter 2007
	Monticello Site Roll-Up Performance Results	3 <sup>rd</sup> Quarter 2007
	Monticello Site Roll-Up Performance Results	2 <sup>nd</sup> Quarter 2007
	Offsite Radiation Dose Assessment for January 1 – December 31, 2007	Selected Dates
	Revision to Offsite Dose Calculation Manual	February 22, 2008
	X/Q Accumulation for Elevated Average sec/cm <sup>3</sup> from Four Release Points	Selected Dates
GASPAR Code Operations	The Critical Receptor Based on Plant Gaseous Source Terms 01	
	Snap Shot Report to Ensure Regulatory Guideline Compliance	April 11, 2008

	Offsite Dose Calculation Manual	Selected Revisions
	Ground Water Monitoring Program Update	Selected Dates
	Bulk Release Records	April 28, 2008
	2007 Database for 10 CFR Part 61 Updates Documentation	April 8, 2008
	Efficiency Calibration Data Files for HPGe Detectors	Selected Dates
	Gamma Reports Off Gas Samples	Selected Dates
	MNGP Ground Water Monitoring Program	
NRC PI Data Calculation, Review and Approval	Report Quarter No. 1 Year 2007	April 4, 2007
NRC PI Data Calculation, Review and Approval	Report Quarter No. 2 Year 2007	July 6, 2007
NRC PI Data Calculation, Review and Approval	Report Quarter No. 3 Year 2007	October 9, 2007
NRC PI Data Calculation	Report Quarter No. 4 Year 2007	February 4, 2008
NELCOM Corporation Letter	Re: Rotation Issue with PANS S-30	May 3, 2007
NELCOM Procedure	Siren Maintenance and Post Service Operability Procedure	Revision 5
Federal Signal Corporation	Service Bulletin 48, Model 2001-130 Motor Wiring	May 14, 2008
2007-001-5-005	NOS Observation Report, Fleet Emergency Planning Assessment	February 12-16, 2007
2008-01-005	NOS Observation Report, Emergency Planning – Monticello	March 17-21, 2008
2008-01-030	NOS Observation Report, Emergency Planning – Monticello State and Local Interface Adequacy	March 17-21, 2008
01054528	Monticello Focused Self-Assessment Report	Part 1, August 14-16, 2007; Part 2, October 16-18, 2007
	Quarterly ANS Reliability PI Summaries	October 2007 through March 2008
	Qtrly Drill and Exercise PI Opportunities	October 2007 through March 2008
	Qtrly Emergency Response Org. Participation Sheets	October 2007 through March 2008
	PI EP Worksheets and Supporting Data Sheets and Records	October 2007 through March 2008
Effect of Siren S-30 on Monticello Public ANS Emergency Plan, Table 5.0-1	Final Report, Prepared by Analysis and Computing, Inc.	May 2007
	Minimum Shift Staffing and Capability for Addition for Nuclear Power Plant Emergencies	Revision 30

Emergency Response Organization Staffing	ERO Duty Team Roster	June 24, 2008
	Emergency Response Organization Staff Training Qualification Record	June 24, 2008
Monticello Emergency Plan MT-BEP	Training Program Description	Revision 0
	Emergency ANS Test Surveillance Records	June 2006 through June 2008
	Emergency ANS Test Surveillance Procedure	Revision 15
Surveillance 1359	PANS Weekly Cancel Signal Test Data	June 2006 through June 2008
Surveillance 1409	PANS Monthly Siren Activation Testing Data	June 2006 through June 2008

#### **VENDOR DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
TS33208001	GEH Test Plan	Revision 1

#### **WORK DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
WO 354387	EC12170, PreOp Testing for Phase 1	
WO 285375	Replace LT1358 and LT1359	
WO 149490	Perform Instrument PM on CFW10 Instruments	
WO 358725	Air Leak Coming from CV612A Positioner	
WO 361167	PM 12/14 RHRSW Pump Motors Cooling Water (PCV3005)	
WO 361203	Flush Service Water Line to 'A' RHRSW Motor Coolers	
WO 361269	Provide Alternate Power Supply to Charger D40	
WO 358356	Conduct GE Test on Motor Cooling Flow Requirements	
WO 346854	Implement EC 11036 Radio Control Modification for Reactor Building Crane	
WO 362709	X02/XFMR, Replace X1 and X2 Bushings	
WO 141996	Replace Missing Hardware on 'A' SBTG Demister	

## LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Documents Access and Management System
ALARA	As Low As Is Reasonably Achievable
ANS	Alert and Notification System
AR	Action Request
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCE	Common Cause Evaluation
CFR	Code of Federal Regulations
CREF	Control Room Emergency Filtration
EAL	Emergency Action Level
EFT	Emergency Filtration Train
EP	Emergency Preparedness
EPU	Extended Power Uprate
ERO	Emergency Response Organization
FEMA	Federal Emergency Management Agency
ESW	Emergency Service Water
GPI	Ground Water Protection Initiative
HELB	High Energy Line Break
HEPA	High Efficiency Particulate Air
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
ISFSI	Independent Spent Fuel Storage Installation
kV	Kilovolt
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PANS	Prompt Alert and Notification System
PARS	Public Availability Records
PI	Performance Indicator
PM	Post-Maintenance
RCIC	Reactor Core Isolation Cooling
RETS	Radiological Effluent Technical Specifications
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
SBGT	Standby Gas Treatment
SDP	Significance Determination Process
SSC	Systems, Structures, and Components
TS	Technical Specification
TSO	Transmission System Operator
USAR	Updated Safety Analysis Report
Vdc	Volts Direct Current
WO	Work Order